



PagePro 9100 Course

CERTIFICATION EXAM

Student Name _____

Company Name _____

Company Address _____

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Date of Test _____

Supervisor _____

Graded by _____

Date _____

Score _____ correct out of _____ = _____ %

INSTRUCTIONS

Before beginning, make sure you've completed the administrative information on the exam cover sheet.

This exam consists of 50 test items worth 2 points each. A score of 80% (40 out of 50) is required to pass. You may use the PagePro 9100 Series CBT for reference during the exam. The exam is an Acrobat 4.0 PDF file and you must have Acrobat 4 Reader software (or later versions). You can download the Acrobat Reader at www.adobe.com. You can print the exam and mark the answers for faxing or mailing. Or you can mark the answers and fill in the blanks on your computer screen using Acrobat Reader. After you complete the exam save the file with a new name, and email the file.

For grading, mail, fax, or email your completed exam to:

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We will grade the exam, and, if you score of 80% or higher, we will email a certificate of completion to the address on the exam cover sheet. You will be notified if you score less than 80%.

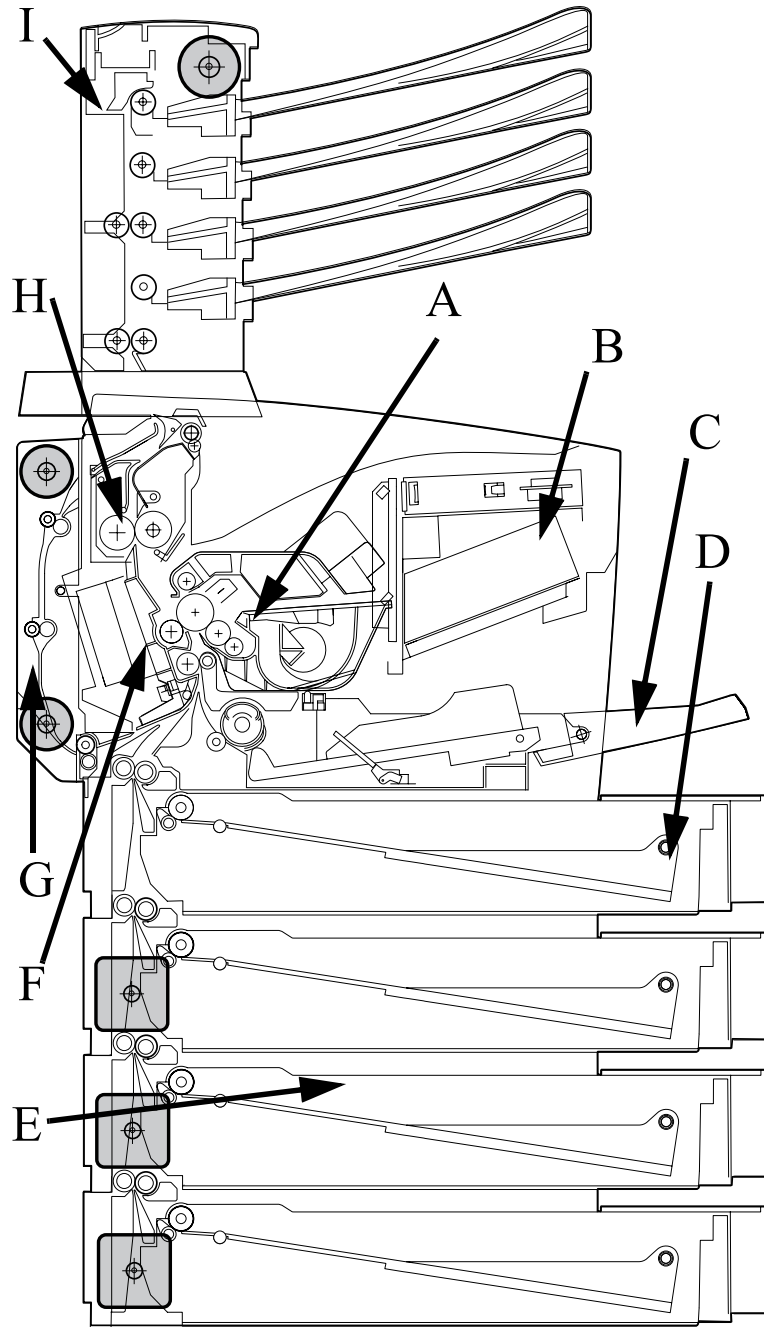
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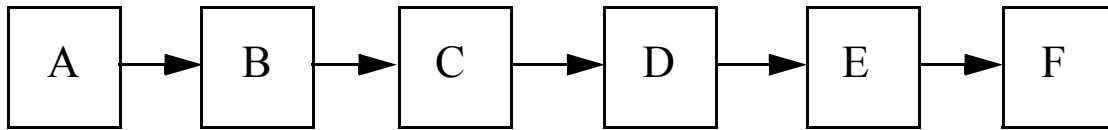
1. The print speed for ledger/A3 paper is:
 - a. 35 ppm duplex / 26 ipm simplex
 - b. 35 ppm simplex / 26 ipm duplex
 - c. 19 ppm simplex / 13 ipm duplex
 - d. 35 ppm simplex / 19 ipm duplex
2. The multipurpose tray on the PagePro 9100 holds:
 - a. approximately 50 sheets
 - b. one ream of paper
 - c. 200 sheets of 20 lb paper
 - d. 500 sheets of 40 lb paper
3. The fuser maximum life expectancy is:
 - a. 300K continuous
 - b. 500K continuous
 - c. 500K intermittent
 - d. 200K
4. There is a 4mm non-print border at all edges for all media sizes, except for edge-to-edge.
 - a. true
 - b. false
5. The warm-up time for the printer is:
 - a. less than 30 seconds
 - b. less than 70 seconds
 - c. greater than 70 seconds
 - d. 2 minutes
6. The engine life is rated at:
 - a. 1 million letter/A4 sheets or five years
 - b. 300,000 letter/A4 sheets or five years
 - c. 30,000 letter/A4 sheets or five years
 - d. 250,000 letter/A4 sheets or five years
7. The mean time between failures (MTBF) for the printer is:
 - a. 1000 hours
 - b. 3000 hours
 - c. 5000 hours
 - d. 4000 hours

Use this diagram to identify the following subsystems in the printer.

- 8. Optical Unit _____
- 9. Duplexer _____
- 10. Standard Cassette _____



11. Which of the following is not a general safety precaution for the printer?
- a. When moving the product or removing an option, use care not to injure your back or allow your hands to be caught in mechanisms.
 - b. If your eyes are exposed to the laser beam, immediately flush your eyes with water.
 - c. Provide good ventilation at regular intervals if a service job must be done in a confined space for a long period of time.
 - d. Wherever feasible, keep all parts and covers mounted when energizing the product.
12. The relative humidity (RH) of the printer environment must be within:
- a. 10-80%
 - b. 15-85%
 - c. 20-80%
 - d. 17.5-82.5%
13. How much vertical and horizontal clearance is needed for the printer (with options) on installation?
- a. 1082mm/42.5in and 611mm/24in
 - b. 423mm/16.75in and 566mm/22.25in
 - c. 539mm/21.75in and 423mm/16.75in
 - d. 1082mm/42.5in and 448mm/17.75in
14. Storage temperature of the imaging cartridge should be:
- a. -20°C to 40°C/-4°F to 104°F
 - b. 20°C to +40°C/68°F to 104°F
 - c. 0°C to 40°C/32°F to 104°F
 - d. 0°C to +30°C/32°F to 86°F



This block diagram shows the six xerographic processes in the printer in sequence. Use the letters in the block to match the following terms to the sequence of the xerographic process for the printer.

15. Exposure - block _____

Cleaning - block ____E____

16. Transfer - block _____

Fusing - block ____F____

Development - block ____C____

17. Charging - block _____

18. Charging occurs when a grid mesh applies a uniform high voltage electrostatic charge on the surface of the PC drum.

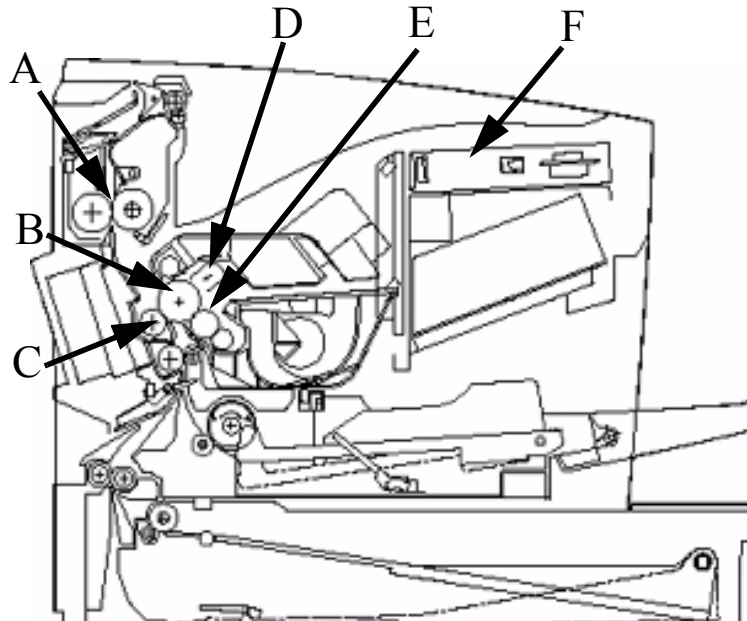
a. True

b. False

Use the following diagram to label the components in the answer blanks below.

19. PC drum _____

20. Developing roller _____



21. A latent electrostatic image is created on the PC drum by the laser beam emitted from the optical unit.

- a. True
- b. False

22. Image transfer is the process of transferring the toner image on the PC drum to the paper.

- a. True
- b. False

23. Because of image transfer, heavy ozone is generated and must be filtered by an ozone filter.

- a. True
- b. False

24. _____ detects the surface temperature of the fusing heat roller and feeds this analog voltage to PWB-A.

- a. Thermostat TS1
- b. Thermal fuse TF1
- c. Thermistor 1 TH1
- d. all of the above

25. After warm-up the temperature of the fuser is maintained by thermistor control to a temperature of 200°C for:
- a. 5 minutes
 - b. 150 seconds
 - c. 240 seconds
 - d. 60 seconds
26. When printing on thick stock paper, the fuser temperature maintained for printing is:
- a. 190°C
 - b. 175°C
 - c. 180°C
 - d. 210°C
27. If software protection doesn't work and the temperature of the fuser exceeds 250°C, what happens?
- a. the thermal fuse breaks
 - b. the heater lamp burns out
 - c. the 24V supply for heater remote is cut off by the mechanical control board
 - d. the 110V supply is cut off by a thermal switch in series with the heater
28. The main motor (M1) is responsible for driving all rollers in the printer.
- a. True
 - b. False
29. What keeps multiple sheets from feeding in the MPT?
- a. a paper separating roller
 - b. a paper separating pad
 - c. corner separators on the tray
 - d. all of the above
30. On the paper trays, the actuators for the paper empty sensor and the paper near empty sensor are attached to the same shaft and work on the same principle as the MPT.
- a. True
 - b. False
31. Which of the following is not built into the imaging cartridge?
- a. toner supply
 - b. development
 - c. charging
 - d. exposure

32. When the duplexer is installed, the paper output lever engages the drive source of the paper output roller from the main motor to the _____.
 - a. transport roller (M1-duplexer)
 - b. switchback motor (M2-duplexer)
 - c. main drive motor (M1)
 - d. imaging unit drive motor (M2)
33. In double-sided printing, the switchback motor (M2) of the duplexer rotates _____ to drive the paper output roller to transport the paper to the duplexer.
 - a. clockwise
 - b. counter-clockwise
 - c. it does not drive the output roller
 - d. at 60 revolutions per minute
34. The bin empty sensors (PC1-PC4) in the mailbin:
 - a. sense if the media is jammed in the bin
 - b. sense if there is paper present in the bins
 - c. sense if the bin is full
 - d. none of the above
35. What is the purpose of HS1?
 - a. detects the temperature in the fusing unit
 - b. detects the atmospheric temperature in the printer
 - c. heats the roller in the fusing unit
 - d. adjusts the internal temperature of the printer
36. Which of the following switches is the power switch?
 - a. S1
 - b. S2
 - c. S3
 - d. S4
37. On the main control board, PWB-A, the purpose of VR1 is:
 - a. to shut down the heater circuit in the power supply
 - b. to control the relay section for the MPT
 - c. to be used for adjusting image registration margin
 - d. to be used for adjusting high voltage output
38. What is the rating of the fuse F1 on PU1 (power supply board)?
 - a. 15A, 250V
 - b. 15A, 125V
 - c. 10A, 250V
 - d. 10A, 125V

39. Which of the following connectors on PWB-A of the universal paper tray connects to the paper take-up motor and the paper take-up clutch?
- PJ2
 - PJ3
 - PJ4
 - PJ5
40. In the pre-process timing sequence, the processing devices around the PC drum are started up and the drum surface is charged. This helps to:
- keep the image transfer roller clean
 - increase the exposure potential on the PC drum
 - speed up the printing process
 - keep the PC drum surface clean
41. The systems in the printer that you would isolate problems to in troubleshooting include the mechanical system, the electrical system, the xerographic system, and the _____ system.
- transfer
 - exposure
 - controller
 - waste toner collection
42. When troubleshooting printer problems, don't forget to check the _____ of the machine.
- prior history
 - maintenance record
 - service call history
 - all of the above
43. The printer detects a laser malfunction _____ ms after laser emission begins after the polygon motor (M5) is activated?
- 50
 - 100
 - 150
 - 200

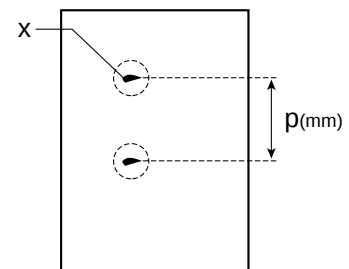
Match the following roller to the distance (pitch) between the marks.

44. _____ Developing roller

a. 50.6 mm b. 93.3 mm c. 41.1 mm d. 87.9 mm e. 94.2 mm

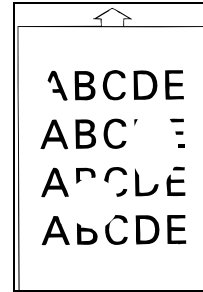
45. _____ PC drum

a. 50.6 mm b. 93.3 mm c. 41.1 mm d. 87.9 mm e. 94.2 mm



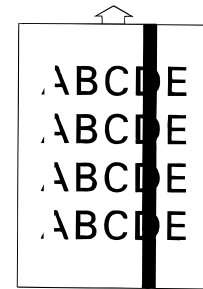
46. Which of the following would cause this image quality symptom?

- a. improper laser exposure
- b. damp paper
- c. poor developing bias
- d. scratched PC drum



47. What would be the remedy for the following image quality problem?

- a. replace the optical unit
- b. replace the paper
- c. replace the image transfer roller
- d. replace the fusing unit



48. Which of the following sensors is used to detect a paper jam while feeding in the mailbin?

- a. PC3
- b. PC1
- c. PC9 & PC10
- d. PC3 & PC4

49. What would be the remedy for repeated paper misfeeds between the paper feed-in section and the transport section when the take-up rollers are deformed, scratched, or dirty?

- a. instruct the user to use paper that conforms to specifications
- b. change the paper and instruct the user how to correctly store paper
- c. replace the paper take-up rollers
- d. replace the main control board PWB-A

50. If you suspected a bad heater in the fuser after a fuser error has been generated, you could check the continuity of the heater by connecting your ohmmeter across interlock switch 2 (S3) connectors:

- a. pins 1 & 2
- b. pins 3 & 4
- c. pins 1 & 8
- d. pins 1B & 2B

